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COLORADO MEDICINE

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No. II.

LEADING ARTICLE

OPERATIVE TREATMENT OF RETROVERSION AND RETROFLEXION OF THE UTERUS.

Aside from operations for the repair of injuries of the pelvic floor, which Emmet, that master of gynecologic plastic surgery, insisted were sufficient for the relief of retrodisplacements of the uterus, and which are accepted by all surgeons as an essential part of any procedure for their correction, all methods suggested for cases of retrodisplacement such as come to the operating table, though many and ingenious, are found on analysis to consist either of shortening of ligaments or creating new attachments. Omitting, for present purposes, the obviously necessary plastic operations and confining our review to those procedures designed to control directly the position of the uterus, we find that a few only have met with any general favor or merit serious attention. By far the larger number may be dismissed with little comment.

Operations by the vaginal route are now reported and discussed so seldom as to leave the impression that whatever vogue they had at one time is now passed. The principles upon which they were based were never accepted as sound, and they received their support largely because of the supposed greater safety in attacking the intraperitoneal disease complicating these displacements by the vaginal than the suprapubic route, and the avoidance of external scar. The difficulties in the performance of delicate and often complicated intraperitoneal operations

through the vagina, guided largely by the sense of touch only, and, as a result, the not infrequent accidental injury of neighboring organs, deterred many operators, and, when it became known that grave dystocia followed in very many of the cases becoming pregnant after the various operations of vaginal and vesical fixation, these procedures came to be regarded with positive disfavor except by a few. The therapeutic results of vaginal operations, including the shortening of the round ligament through the anterior fornix, did not appear to be any better than by other methods, and when the technique of abdominal operations had been so far improved that the suprapubic route, open to the eye, was demonstrated to be safer from operative accidents, and as safe or even safer from post-operative complications, the *raison d'être* of the vaginal route disappeared, and apparently very few still practice these methods.

It has been frequently noted that the tissues of the upper layer of the pelvic diaphragm adjacent to the uterus are relaxed, permitting the cervix to drop and favor a backward displacement. Laudable efforts have been made from time to time to correct this condition and maintain the cervix at a higher level by plastic operations, by creating adhesions in Douglas' cul de sac, or by shortening the utero-sacral ligaments from above or through the vagina. These efforts have been more or less desultory and the success following the methods pursued have not been so marked as to attract any general attention or inspire confidence. This pathological condition, though important, at present appears to be either not diagnosed or, when recognized, ignored by

most operators. When a satisfactory technique for its correction is developed, the operation may easily prove a most important auxiliary to other procedures, if it cannot be depended upon as a sole reliance.

The shortening of the round ligament through superficial incisions in the groins, commonly known as the Alexander operation (though others deserve much of the credit for it), performed after various methods in minor detail, has been under consideration and practiced for twenty years. The acknowledged advantage of being an external operation, with no risk of peritoneal complications or to life; of utilizing normal ligament (and the strong fleshy part of it) to retain the uterus in position in a physiological manner, involving no interference with the normal progress of pregnancy and labor, combined with a high degree of efficiency, have caused its adoption by many operators for that limited class of cases for which it is applicable, and served to stem the current of much sharp criticism. Throughout all the shifting of surgical opinion, this operation appears to have slowly and steadily grown in favor for posterior displacements which are replaceable and uncomplicated by pelvic disease, particularly in women during the child-bearing period, for whom pregnancy is a possibility.

Objection is made to this operation that the round ligaments normally have little influence, if any, in preserving the anterior position of the uterus; that they are occasionally absent, are not easily found, and are often so slender as to break in withdrawal, necessitating other operation; that suppuration and sloughing are liable to render the procedure valueless; that hernia not infrequently results; that it is not an efficient cure and does not stand the supreme test of pregnancy, and finally that the scars are an offense. Those

who have gained sufficient familiarity with it to cope successfully with its acknowledged technical difficulties reply; that while these objections are occasionally valid, unfortunate results are due to inexperience and are accidental and avoidable, rather than an essential defect of the operation in principle. They contend that the ligaments, if absent at all, as is questioned, are in fact absent in so few cases as to be a matter not worthy to be taken into account, and with care they should not break; that suppuration and sloughing are due to defective technique, too much dissection and bruising of tissue, or tying the ligatures too tight; that hernias may be avoided by properly placing the sutures and closing the canal; that in practice the ligament is efficient in retaining the uterus and relapses are uncommon, even after parturition; that the scars are small, insignificant and scarcely noticeable after a few months; and finally, it is claimed, the records do not show a single case of complication of pregnancy or labor attributable to the operation. The successful Alexander would therefore appear to be an ideal operation for these uncomplicated cases, during the child-bearing period.

Efforts have been made to extend the advantages of this operation to displacements complicated by the minor forms of disease of the appendages by dealing with them through the internal abdominal ring after enlarging it. A number of successful cases have been reported, but the suggestion is too recent to permit of a judgment upon its relative value or the possibility of safe-guarding against hernia.

When these displacements are complicated by conditions requiring abdominal section, it is the accepted opinion that some intra-abdominal method should be selected for their relief, and the choice lies between some operation upon the nor-

mal ligaments or creating a new attachment of the uterus.

Those who believe in the desirability of using the round ligament for holding the uterus forward have endeavored to make it efficient by folding and shortening, or by creating a new attachment between it and the anterior abdominal wall, or to the uterus, anteriorly or posteriorly, and incidentally shortening it. Some of these operations have been performed over a period covering a number of years and have been regarded as fairly efficient, yet, looking back it would appear that even those procedures regarded with the most favor have been utilized largely as a makeshift to avoid the attachment of the uterus to the anterior abdominal wall, rather than because of the confidence felt in the method, either as originally proposed or as modified from time to time. All these intra-abdominal operations on the round ligament, in common with the external shortening of these ligaments, already mentioned, have the advantage of not interfering with the normal progress of pregnancy and labor. With one or two exceptions, to be mentioned later, these operations have depended for their permanency and success upon the slender, weaker part of the ligament as it passes through the inguinal canal rather than upon the fleshy, stronger intra-abdominal portion, and upon the continued integrity of adventitious tissue, the adhesions between the folds of the ligament or at its new attachment, usually peritoneal. These facts, in the absence of satisfactory reports of final results, have caused distrust of the real and permanent value of these operations, however successful the primary result, and a suspicion exists that relapses are common. For these reasons many who preferred the use of the round ligament in principle have, in the absence of a procedure which could be regarded as sound and reliable, accepted and prac-

ticed the attachment of the uterus to the anterior abdominal wall as offering the best solution of the problem.

For others, suturing the fundus of the uterus to the anterior abdominal wall has been the operation of choice, and being simple in performance, efficient, and withal so quickly done as not to prolong a section materially, even when accompanied by shock, it has deservedly been held in the greatest favor by the majority of surgeons, and by many it has been used for those simple, uncomplicated cases not otherwise calling for section, and for which the operations of the Alexander type have been held to be particularly applicable.

The firm attachment of ventral fixation as first practiced was soon found to interfere seriously with the normal development of the uterus during subsequent pregnancies, inducing various complications, among them abortion and dystocia in a very considerable proportion of cases. To avoid these complications the slighter peritoneal adhesion of suspension of the uterus has been substituted, except possibly for patients approaching or past the menopause, without expectation of future pregnancy, or those physically sterile. It is urged, however, that the adhesion, though slight, is an abnormal one, and occasionally gives rise to more or less annoying symptoms or grave complications. Even in the hands of competent men with every care in technique, its character cannot always be so limited as to insure a sufficient mobility of the uterus to admit of its full physiological development during gestation and avoidance of complications in labor. The connecting band is of adventitious tissue, and while if slender it may easily stretch during pregnancy, it is agreed that it cannot be depended upon after labor to undergo co-incident involution to such an extent as to be again as efficient as before and insure against re-

lapse. The operation is popular, and for years it has been the one most commonly applied in abdominal cases. Its advocates direct attention to the very large number of cases showing no untoward symptoms, yet, the fact remains that cases are occasionally reported in which unfortunate results have followed, demonstrating that the disadvantages above mentioned are positive in a certain though possibly small number of instances, and at least are not so insignificant as to be ignored. The autoplasmic operation, with the use of peritoneal membrane to fetain the uterus, has been tried, but with what relative value is not yet clear.

Whatever opinion may ultimately be held regarding the relative value of shortening the round ligaments in the groins and suspension of the uterus for cases of uncomplicated retrodisplacements, the value and efficiency of the fleshy inner portion of the ligament, as utilized in the Alexander operation, appears to be more generally recognized, and attempts are being made to extend its use. Methods have quite recently been proposed of attaching a loop of the intra-abdominal portion of these ligaments to the anterior abdominal wall more firmly than by the peritoneal adhesions formerly depended upon by threading it through a small wound in the peritoneum, muscle and fascia on either side of the median abdominal incision and fixing it by suture, thus suspending the uterus by the strongest portion of the ligaments and imitating as nearly as possible in intra-abdominal work the result following the Alexander. Should experience show operations of this type to be free from post-operative objections and quickly performed they may offer a ready means of correcting these displacements in cases in which abdominal section is required in a safer, more physiological and efficient manner than heretofore suggested, and go far toward giving

a satisfactory substitute for attachment of the fundus to the anterior abdominal wall, especially for women in the child-bearing period of life.

WALTER A. JAYNE.

ORIGINAL PAPERS

*INFLUENCE OF TYPHOID FEVER UPON THE NERVOUS SYSTEM.**

By S. D. HOPKINS, M. D., OF DENVER.

The nervous symptoms that are so frequently seen in the early, late, and convalescing stages of typhoid fever are frequently caused by the action of the febrile temperature or the toxins on the central nervous system. Liebmeister brought forward the opinion that the febrile temperature alone was sufficient to explain the nervous symptoms seen in this disease, but this is not satisfactory. In many cases of typhoid when the temperature becomes low or at times subnormal the cerebro-spinal symptoms may be most profound; being due to the action of toxins on the central nervous system.

The neurological symptoms in typhoid fever are modified by certain individual conditions, particularly age, constitution, sex, antecedent disease, heredity and the effect of the toxins on the general condition and individual organs of the patient.

The young, aged, and women react differently to the effects of typhoid fever, though previously healthy, when the nervous system is exposed to the same influences.

Persons who have suffered from hysteria, neurasthenia, injuries of long standing, depressions of all kinds, excesses in eating, drug habits: as chloral, bromides, opium, coffee, alcohol, and particularly emotional disturbances, previous to an at-

*Read before the Wyoming State Medical Society, Sept. 13, 1904.

tack of enteric fever, are predisposed to severe nervous manifestations during the course of the disease. In the early stages of the disease the deep reflexes are increased, but as the absorption of the toxins increase the reflexes gradually become lessened and later are entirely abolished.

*G. Carrier has made a careful search for Kernig's sign in fifty cases of typhoid fever occurring in children in his service.

"The sign was noted in twenty-two instances, in fifteen very clearly, in seven slightly. In all cases in which the sign was noted cytosopic examination of the cerebro-spinal fluid was made. Only once a slight polynucleosis was found when cultures were made sterile. In general the sign was observed from the third to the sixteenth day of the disease, usually disappearing about the thirteenth or fourteenth, but it may reappear or appear for the first time at the development of the complication. In all of the fatal cases in this service the sign was found." It is said that when this sign is present the case is three times more fatal than when it is absent, and cold bathing does harm rather than good.

The symptoms which will first be considered are those which are not dependent upon any anatomical lesion of the central nervous system; as headache, insomnia, delirium, convulsions, tremor, stupor and many forms of the psychoses.

Headache is one of the early symptoms of this disease and first makes its appearance in the prodromal stage and may continue throughout the disease, although it may entirely cease about the second week. The location of the pain varies, sometimes being referred to the frontal or occipital regions, or occasionally to the sides of the head and face. The patient complains of the pain in the head as being dull in character or as a pressure or a band-like constriction about the cranium.

Associated with the headache in the early stages of typhoid fever is insomnia, which may continue in a varying degree throughout the course of the disease. About the end of the first week in moderately severe and severe cases the typical typhoidal stage is reached in which we have a dulling of consciousness and of the special senses. In this stage patients frequently complain of intervals of sleeplessness even when they are in a stupid condition. In the majority of cases of enteric fever the early occurrence of long intervals of sleep is a very favorable sign.

*"About this time the complaints of the patient lessen gradually, the interest of the patient in his surroundings diminishes, and the desire for food and drink becomes progressively less. The patient lies in an apathetic state in a relaxed dorsal decubitus, but still reacts sluggishly to loud speaking, to questions and to active sensory impressions. His statements are still fairly rational, but even slight demands upon mental activity are speedily followed by fatigue. After making brief replies, he relapses into his stuporous condition, in which he is likely to be annoyed by dream-like hallucinations, which constantly reappear as soon as the eyes are closed, or even during the half-waking state. With the progress of the disease, generally at the beginning or the middle of the second week in severe cases or in irritable individuals earlier, the dream-like hallucinations become transformed toward evening and during the night into actual delirium."

The delirium may be quiet (low muttering delirium) or active. In the quiet or low muttering form there are delusions and hallucinations of sight. He is unable to recognize relatives or friends, mistakes objects for animals or persons.

*Nothnagel's *Encyclopedia of Practical Medicine*, page 261.

Talks constantly in a low, monotonous voice, and it is difficult to ascertain what is said by him. An active delusion is characterized by the patient trying to act according to his mistaken ideas. He insists on going to his work, leaving his bed room, going out of doors, or he may commit suicide under the guidance of some delusion. Delirium in typhoid fever may continue up to the end of the third week or until convalescence begins, when it gradually subsides. Delirium in itself has but very little diagnostic value excepting when it is associated with a symptom-complex sufficient to make a clinical picture of a certain definite disease.

Persons suffering from typhoid fever who are addicted to alcoholic stimulants may develop tremor of the hands and face and the characteristic hallucinations of horror of acute alcoholism which may mislead the diagnostician in arriving at a correct conclusion.

An important point to bear in mind in regard to delirium is that which was brought forward years ago by Sir William Jenner, when he insisted that the headache of fever ceases, as a rule, when the delirium comes on, and if the two co-exist there is probably some disease of the encephalon.

In severe cases of enteric fever delicate persons may pass from delirium into stupor and coma as early as the first week, and this is also true of robust individuals in extremely severe cases. These patients present the appearance of intense intoxication, with paralysis of the higher centers.

Motor symptoms are frequently encountered; from a simple tremor to a convulsion. Convulsions are extremely rare in adults excepting where some complication develops, as meningitis or uremia. In children they may occur without any serious complication, and the patient make a complete recovery.

In every case of typhoid fever a certain

amount of muscular tremor is observed occurring in any stage of the disease and may be of considerable prognostic value.

Simple tremor occurs especially in those persons who are weak, irritable and addicted to the use of alcohol. Sometimes the tremor may persist during convalescence and be followed by symptoms of disseminated sclerosis or various disturbances in sensation as hyperesthesia or anesthesia and occasionally by muscular contractures. During the course of the disease the tremor may be associated with muscular twitching (*subsultus tendinum*) affecting the muscles of the arms and trunk; although in some cases the lower limbs may be involved to a slight degree. The twitching may become so intense that it is distinctly choreic in nature.

The mental depression and confusion that occurs in enteric fever is usually related to the febrile delirium and may develop as early as the first week. The usual time for this morbid mental state to present itself is about the third week, and it may continue throughout convalescence and even after the patient has recovered from the disease.

I saw in consultation with Dr. J. N. Hall a miner, 25 years old, strong and robust before illness.

Had typhoid fever in Leadville and recovered his general health much more rapidly than his mental strength. Three weeks later sent here with confusional insanity. Recovered in five or six weeks.

Delusions and hallucinations frequently disappear with recovery, although they may remain and become fixed. The psychoses occurring during the fever and following the disease are, melancholia, mania, dementia, paranoia, and in hysterical persons catalepsy.

*Curschmann says: "Among 4,000 cases of typhoid fever, I have observed more or less well-developed psychoses at

*Gaz. hebdom de med. et de chir, No. 61. 1902.

the height of the fever or during convalescence in 42. In 35 cases the mental disturbance occurred during the febrile stage, in two during the period of irregular temperature, and in five during convalescence. These patients were exclusively adults, and women were more frequently affected than men. I noted 27 of the former and 15 of the latter. In 32 of the cases states of melancholia or quiet delirium were present, with or without hallucinations; while in the remainder, conditions of more or less marked excitement and even maniacal states were observed. With regard to hysteropsychic disturbances, and especially the cataleptic variety which I have observed far more frequently, I have unfortunately no statistics."

From the above statement it is seen that melancholia is the most common mental disturbance observed during an attack of typhoid fever, but when the fever has disappeared the patient may exhibit marked mental stupidity with a tendency to terminal dementia.

Mental defects are more frequently observed in typhoid fever than any other of the acute infectious diseases. In every case neurasthenia supervenes in some form, either of the spinal, cerebro-spinal, visceral or sympathetic type. Numerous cases of typhoid spine have been reported by Gibney and Osler; Gibney first called the attention of the medical profession to this condition in 1889. The patients complain of acute pain throughout the spine on forward or lateral movement of the body; and it is probably due to an inflammation of the periosteum and fibrous structure of the spinal column.

The involvement of the peripheral nerves is that of multiple neuritis causing paralysis of certain muscles of the extremities, associated with disturbances in sensation, e. g.: numb and tingling sensations, hyperesthesia followed by anes-

thesia in the parts supplied by the affected nerves, with loss of deep and superficial reflexes. In 15 cases observed in private and hospital work, ten presented all the typical symptoms of multiple neuritis, while the remaining five cases developed that condition described by Osler as "tender toes," which is seen so often after tub bathing. The latter condition is simply the beginning of the disease under consideration.

Follett reports a case of typhoid fever with three relapses, lasting three months. The patient had had 225 tub-baths throughout the course of the disease. There was decided cardiac weakness; and marked neuritis in the lower extremities, but the latter disappeared in about three weeks. After this the skin, instead of being pallid, became cyanotic, particularly at certain times of the day, and especially after the baths. The cyanosis was more bluish than one would expect it to be from circulatory weakness. There developed also symmetric, broad, black bullae, as large as a dollar, behind the malleoli. The pulse in the dorsalis pedis artery could not be felt. The author considers this a case of Raynaud's disease, the development of which was probably greatly influenced by the tub-baths.

It is rare for spinal paralysis of childhood to complicate or follow an attack of enteric fever. I have seen this complication in two instances.

Case 1. Seen in consultation with Dr. David Thompson. M. B., female, age 9. Always enjoyed good health until she suffered from an attack of typhoid fever. The attack was mild and without any complications. About ten days after the fever had subsided she complained of dull pains and heaviness in the lower extremities, with inability to move them. Motor power was entirely lost in the anterior tibial group of muscles in the right leg. In the left leg no particular group of

muscles was paralyzed, but all were weak. Three days later the muscular power returned in the left leg while the paralysis remained in the anterior tibial group of the right limb, with the characteristic foot drop.

An examination of the patient was made three weeks after the beginning of the paralysis. Patient able to stand alone with eyes open and closed. Gait very unsteady on account of the inability to raise the right foot. All deep and superficial reflexes about normal, except the right knee jerk, which was absent. Sensory phenomena normal. Special senses normal. In response to the galvanic current the right anterior tibial group of muscles showed the reaction of degeneration.

Case 2. L. V., female, age 18, school girl.

Family history is negative.

Previous History—Had the usual diseases of childhood. About seven months ago suffered from an attack of typhoid fever, the duration of which was eight weeks.

Present Illness—Began three days after the fever had subsided. The lower extremities gradually became paralyzed and she was compelled to walk with crutches for four months. The weakness of the muscles improved slightly, so that she was able to walk with the aid of a cane. When first taken sick she experienced dull pain in the lower portion of the back and legs. Improvement in certain muscles of the legs gradually took place, but her gait was always awkward.

Examination—Walks awkwardly, raising the feet higher than usual and bringing them down as a whole. Slight ataxia in legs when eyes are closed. No ataxia in arms, slight in trunk muscles. Knee jerks: right, absent; left, same. Ankle clonus, tendo-achillis absent. Deep reflexes of forearm increased. Masseter absent. Sensation perfect throughout the

body. Superficial reflexes about normal. Muscular power in lower extremities weak, especially in the extensors. The electrical reactions in the right anterior tibial, and extensors of the thigh are those of degeneration. In the right glutei muscles there is no reaction of degeneration, but the contraction to the galvanic current is lessened. In the left leg there is normal response to electrical stimulation, but the muscles are weak.

From recent investigations it is believed that multiple sclerosis is a sequela of some of the acute infectious diseases.

*Pierre Marrie observed, among 25 cases of insular sclerosis dependent upon infectious diseases, 11 in which this condition was a sequela of typhoid fever. The military-sanitary report of the French campaign of 1870-71 likewise refers to similar cases. Edstein was one of the first to call attention to this interesting complication. His patient exhibited bulbar disturbances of speech and ataxia, without any other impairment of motor power or sensation. Myelitis occasionally manifested itself in the course of, or after, an attack of typhoid fever. The onset may be about the third week of the disease, during convalescence or months after recovery.

Abscess of the brain may follow the acute infectious diseases, and a few cases have been reported as the result of typhoid fever. This is an extremely rare complication.

Cerebral vascular lesions may occur during or after an attack of enteric fever, the lesion being that of a hemorrhage, embolism or thrombosis. These complications depend upon certain pathological changes taking place in the arterial walls, blood states, and lowering or raising of the blood pressure. The most common cerebral vascular lesion found in this disease

*H. Curshmann, Nothnagel's *Encyclopedia* of Practical Medicine, page 279.

is thrombosis, owing to the fact that two of the common causes are present in typhoid; namely, a blood state and cardiac weakness. *Hawkins has made a most careful study of hemiplegia in typhoid and has collected 17 cases from the literature. Two of the cases died, and in these there was a thrombosis of the middle cerebral artery.

In many cases of enteric fever the nervous symptoms may mask those of the underlying disease to such an extent that a diagnosis of cerebral or cerebro-spinal meningitis is made. The symptoms indicative of meningeal involvement may appear in the stage of incubation or during the first week of the disease; while the cerebro-spinal symptoms usually make their appearance about the third or fourth week.

The patient complains of pain in the cervical and sacral regions of the spine, which is increased on motion, constant headache, vertigo, photophobia, ringing in the ear, muscular rigidity, facial herpes, and added to this symptom complex is delirium. When the delirium is preceded by headache and there is sufficient pyrexia to account for both, the presumption is strongly in favor of a febrile affection.

When these meningeal symptoms occur in cases of typhoid fever, where the physician is in doubt a lumbar puncture should be employed to determine the exact character of the infection. The appearance of facial herpes is always in favor of a meningitis, as it is a very uncommon occurrence in febrile affections. In typhoid fever the temperature runs a more regular course, the pulse is more frequent and seldom irregular. In very nearly one-half of the cases of typhoid fever when the nervous symptoms first appear it may be impossible to make a satisfactory diagnosis until the appearance of the rash, enlarged spleen, diarrhoea and a positive

Widal reaction. As stated above the cerebro-spinal symptoms are more frequent than any of the other nervous manifestations occurring in typhoid fever or as a sequela to it. The following case which is reported by Gordon shows to what extent the central nervous system can be involved.

*Gordon reports a case of typhoid fever in which there was a total motor aphasia, agraphia, word blindness, right hemiplegia, including the face, though not pronounced, and slight hyperesthesia of all forms of sensation on the same side, rigidity of both lower extremities with ankle clonus, greatly exaggerated patellar reflexes, and the Babinski sign on both sides. The patient could not stand unsupported or walk, and there was incontinence of both urine and feces. With this there was no hysterical stigmata, and the previous history made Gordon reject functional nervous disease as the cause. At the time the examination was made the patient had entered into convalescence and made an uninterrupted recovery and left the hospital in perfect health. He thinks the case is instructive for the following reasons:

1. An apparently mild case of typhoid fever without any complications in other viscera may affect the whole cerebro-spinal system simultaneously.

2. The nervous symptoms may be pronounced and multiple in spite of the mildness of the original disease.

3. These multiple and marked organic symptoms may be out of proportion to the general condition of the patient, as, generally speaking, we know that the more pronounced the infectious disease is in its course, the more profound is the toxemia, and the more symptoms of complication can be expected.

4. The prognosis is usually favorable

*Journal American Medical Association, April 23, 1904, page 1105.

*Clinical Society Transactions, Vol. XXIV.

in cases in which disproportion is present, as these apparently alarming symptoms are only transitory in character. The case is also unusual from this point of view, that if aphasia and hemiplegia in the course of typhoid fever were rarely observed, agraphia and word blindness, to my knowledge, were not reported.

In persons suffering from typhoid, who have a predisposition to consumption, a tubercular meningitis may complicate the general condition, particularly when the patient is convalescing. Exophthalmic-goiter and diabetes insipidus may occur during or after an attack of enteric fever.

A STUDY OF ACONITE AND VER- ATRUM VIRIDE.

WITH SPECIAL REFERENCE TO THEIR USE
IN LOBAR PNEUMONIA.

BY GEO. A. MOLEEN, PH. G., M. D.,
DENVER.

It may be said that in subjects in which our knowledge is meagre, imperfect or uncertain, it is usually so in inverse proportion to the amount of literature to be found, and the variation of the reports when compared with one another. Although the pharmacy, therapeutics and consequently the use in treatment of medicinal agents has been to some extent neglected, or has given way to surgical advances, yet recent observations and writings on the subject in hand seem to make good the rule.

The subject of this paper has its *raison d'être* in three objects: First, to place an important matter before the Society for discussion; secondly, to possibly throw some light on the varieties, adulterations, keeping, and the pharmaceutic methods of production of their preparations; and, third, to record clinical reports of cases which are seemingly at variance with recent writings.

A most interesting, not to say amusing, discussion followed the reading of a paper in the section on *Materia Medica* and *Therapeutics*, A. M. A., by Dr. Hill, of Milwaukee, on the "limitations" of the use of these drugs. The diversity of opinion was very striking. A few quotations from this source may be admissible. In the opening remarks of the discussion we find the following: "Acute diseases, such as typhoid, pneumonia, etc., where weeks or months are required to recover, were the conditions in which aconite used to kill." Again: "If we weaken the heart during any period of the disease, what shall become of the heart during convalescence?" Robinson, of New York, considers them very valuable drugs, though not used as much as formerly. He especially commends the use of aconite in sthenic pneumonia; though where prolonged depression of arterial tension is desired, he believes veratrum to be the safer drug. He concurred in the statement of others, that no death has been recorded as a result of the administration of the latter. Dr. Solis Cohen agreed with Robinson that early in pneumonia aconite was of more use than any other drug in the pharmacopoeia; and in reference to veratrum, he believed that there must be some foundation for its general advocacy. In closing, the author adds "that he is in accord with the belief that in the beginning of pneumonia, where the heart has more than double its burden, aconite is contra-indicated because of the "ultimate" effect of the drug upon the heart.

For the sake of clearness, it seems advisable to study the two drugs from their botanic, pharmaceutic, physiologic, toxicologic and therapeutic properties, separately.

Aconite, as it appears in the drug markets, whole, comminuted or powdered, is of variable alkaloidal value, according to the variety, time and place of collection,

and the length of time on hand. In the Paris Codex there are recognized, *A. Anthora*, *A. Cammarum*, and *A. Napellus*, but the French and British acknowledge only the *A. Napellus*. While the U. S. Pharmacopoeia specifies only the tuber of *A. Napellus*, the roots of many species, including some domestic varieties, are used in the manufacture of the aconite preparations. This variety is to be found in abundance in the mountainous districts of France, Switzerland and Germany. It should be gathered in the early spring or autumn, after the leaves have fallen, and is not perfect until the second year.

The wild plant is more effective than the cultivated. (Schroff.) The plant cultivated in this country is more active than the European root, alkaloidal value having been found as high as 0.85 per cent in the former.¹ The drug was first used by Baron Storck of Vienna.

Pharmacy: The preparations of aconite recognized by the U. S. Pharmacopoeia are the extract, fluid extract and tincture. The unofficial preparations include principally the oleate of aconitine, the liniment of aconite and chloroform of the National Formulary, and the tincture known as Fleming's, the use of which there has been an attempt to discourage for many years, on account of its high strength (66 $\frac{2}{3}$ per cent.). The official tincture is of 35 per cent. strength, it having been reduced from 40 per cent. in the 1890-revision of the pharmacopoeia.

Since the administration of the drug has been almost exclusively confined to the two tinctures and the fluid extract, the pharmacy of the other preparations do not concern us at this time.

That the tincture, from what has been said, should be made from a carefully selected, assayed or standardized drug, free from adulteration, and which has not become inert from age, or better, not over two years of age, would seem to be evident.

How often do we, in prescribing, get a preparation which will conform with this standard? So seldom, it would seem, that the majority of the profession have been willing to omit it by reason of the "uncertainty of its results."

Speaking from the pharmaceutical experience, I may say, especially in the west, that to place at 90 the percentage of tinctures made by the diluting of the fluid extract would be conservative. This prompts the question Can the tincture so made—from a fluid extract, which is itself concentrated by the use of heat—represent the tincture percolated without heat from the fresh standardized drug, which is the preparation on which our knowledge of the physiologic activity has been based?

Of this there can be little doubt, and since the two tinctures may be recognized by physical differences—gummy extractive, precipitates or turbidity—they are certainly not one and the same, if for no other reason. Others, however, are not wanting, e. g., the dose of the fluid extract is usually stated at one-half that of the tincture, while the strength is about three times, which is confirmed by the observations of C. R. A. Wright², who, in speaking of aconitines says they are esters of either benzoic acid or of a derivative of this acid. Thus when heated alone, each of the crystalline bases undergoes saponification, with the formation of benzoic acid or a derivative thereof, together with a new amorphous base which generally has far less physiologic activity than the crystalline alkaloid from which it is derived.

Why should the drug be assayed before use? Rusby³ states that the total alkaloidal strength should be seven one-hundredths of one per cent., and that since this is very variable it should be stated in connection with every lot and preparation of the drug. With such a knowledge of the alkaloidal strength we may so increase or diminish the quantity of menstruum in

order to obtain a preparation from which we may expect a constant and uniform effect. It may be said further that certain scrupulous drug millers, in lieu of this variation, print on the labels of each lot the required amount of menstruum, based upon the percentage of total alkaloids found, by assay, to produce a standard preparation.

Physiological Action: All authorities agree so closely with the more important physiologic effects, as stated by H. C. Wood⁴, that it seems but necessary to quote from this author as follows: "Small therapeutic doses are followed, in man, by a reduction in the force and frequency of the circulation, a sense of muscular inertia and weakness, and a slight tingling in the extremities or in the lips. If the dose be large these symptoms are intensified, with possibly giddiness and disordered vision added. After three or four hours these symptoms gradually subside."

Stewart adds an increased action of the skin and kidneys.

Toxicology: There can be no doubt but that aconite is an exceedingly powerful poison. Five grains of the extract, and eighty minims of the tincture are said to have caused death⁵. Out of twenty cases reported up to 1896-97, six were fatal and fourteen recoveries. The recoveries having followed such doses as one and one-half ounces of Fleming's tincture (66 $\frac{2}{3}$ p. c.); seven and one-half drachms of U. S. tincture (35 p. c.); thirty minims of B. P. tincture (10 p. c.).

Edson⁶ having observed death from two drachms of tincture, he mentions other known cases not treated by him, three of which died; the amounts taken in these cases were from one to four drachms. The age of the patients seems to have been omitted. Whannel reports a death in sixty-five minutes from one ounce of British tincture⁷.

Tincture, five and one-half drachms, (Tuttle⁸). L. W. Riggs⁹ states that out

of 193 deaths reported, 157 were accidental, 26 suicide, 6 homicides and the remainder unknown. In eighteen cases the root itself, or a decoction of it, was taken by mistake for some other root, e. g., horseradish.

Veratrum: This rhizome and root is indigenous to the northern United States, though growing as far south as the Carolinas. Despite this fact, it seems to be better known in the southern than in the northern states.

Its perennial nature would indicate that only those roots collected at the end of the second year's growth had reached their standard of activity. The drug is directed to be kept, per se, not longer than one year.

Physiological Action: Briefly veratrum may be said to be a powerful spinal and arterial depressant, having little or no effect upon the cerebral centers. Full therapeutic doses lower the pulse rate by direct action on the heart muscle and by stimulating the inhibitory nerves, with more or less vaso-motor paralysis according to the size of the dose. The functional activity of the skin is increased and there is undoubtedly a lowering of the temperature, though just how this is accomplished is not known.

Toxicology: Veratrum is stated to be safe because it is almost incapable of producing death in a robust individual, unless recklessly used. Wood¹⁰ believes it to be the safest of all cardiac depressants, and doubts whether a robust adult could be killed by a single dose of any of its official preparations. The same author states that he has several times seen a teaspoonful of the fluid extract taken; and quotes Percy, who cites recoveries after the ingestion of a tumblerful of tincture, after thirty grains of the resinoid, after two doses, a tumblerful each, of a syrup, representing a pound of the root to the pint. A feeble child eighteen months old was killed by thirty-five drops of the

tincture. Another child eleven months old was killed by the administration of between three and four drops of Norwood's tincture every two hours.

Therapeutics: Under this head the indications as applied to lobar, or croupous pneumonia, only will be considered. Their use depending upon the general properties common to both drugs permit of their being taken up together. Such being the case, the following queries become pertinent:

1. May we hope to prevent or limit the consolidation by reducing the blood pressure?
2. By so reducing the circulatory force, will this effect be permanent or transitory, or may we expect this depression to persist?
3. If used, when and how long should it be given?
4. Is there reason to fear cumulative action?

With the rapid, hard, bounding, incompressible pulse, with which we are all familiar, and the lung in the state of engorgement so well described in the parlance of Osler "as firm, deep red in color, the cut section bathed in blood and serum, though the air cells are yet capable of insufflation from the bronchus, the alveolar epithelium swollen, and the air cells containing blood corpuscles and detached epithelium" and, we may add, which are in turn to be found in the sputum of the living subject in addition to the diplococcus intracellularis—it would seem that a reduction of the blood pressure here was an unquestionable indication unless it could be proven that the consolidation to follow may result from other causes than from the organization of the extravasated blood and serum.

So far are the depressing effects upon the circulation from being permanent that the blood pressure must be carefully watched in order to avoid an extension of the congested area as a result of the reac-

tion which is almost certain to occur within six to eight hours after the withdrawal of the drug. For the same reason cardiac stimulants are contraindicated at this time except in the case of alcoholic subjects, when it should be limited to small doses of alcohol in the form of whisky or high wine. From the foregoing it would follow that an ultimate untoward effect at the time of convalescence, as a result of its use, is very improbable, and this statement is further supported by the observations of Rusby "that although some aconitine is excreted, especially by the urine, it is for the most part quickly burned up in the system, so that if a fatal result is not prompt, recovery is apt to occur." Again, "the usual duration of a fatal case of poisoning is from one to five hours, whether taken in the form of aconite, aconitine or the root itself."

The time, par excellence, for the giving of these remedies is in the stage of engorgement as described above, though it may do good even after consolidation has been established, when the pulse remains full and hard and the temperature high, for evil, if such it is at this time, its effects must be the lesser when contrasted with the damaging possibilities of such conditions of pulse and temperature.

They should be continued until the full effect upon the circulation is evident, then discontinued for from four to six hours, when the reaction should be met by doses repeated at greater intervals than before, when mild cardiac stimulation may be cautiously introduced, for a circulation so depressed usually responds readily to stimulation.

The reaction may also be controlled in part by the administration of one or two grains of calomel, in divided doses, on the evening of the second day, followed by a saline, which has the double effect of clearing out any possible remaining drug as well as reducing the blood pressure.

Lastly, since all authorities agree that

the drug is rapidly consumed or eliminated within a few hours, fear of accumulation requires only to be mentioned to be dismissed.

Probably no subject has enjoyed more attention in the medical literature of the past six months than the treatment of pneumonia. In spite of the numerous suggestions to be found, sera and the so-called specifics heralded in the past few years, the therapeutic exclusionists—if we may use the term—and the equally objectionable polypharmacists, we must admit that the mortality of this disease is and has been on the increase, in evidence of which Reynolds²¹, writing under the title of "The New Captain of the Men of Death," points out that since the year 1900 this disease has caused more than one-eighth of all the deaths in Chicago, one-third more than consumption, forty-four per cent more than all other contagious diseases combined, including diphtheria, influenza, measles, puerperal fever, scarlet fever, small pox, typhoid fever and whooping cough.

In 1890 the deaths in the United States from pneumonia, per 10,000 population, were 186.9, while in 1900 there were 191.9; Well's statistics, amplified by Osler, embracing 225,000 cases, taken from all over the United States, gave a mortality of 20 per cent.

From the foregoing, the reasoning seems justifiable that in the absence of uniformity in the tinctures (especially of aconite) obtainable in the majority of pharmacies, we find an explanation of the varied reports of its effects; and that without a standardized preparation there is reason for hesitation, since with a fixed idea of dosage required in a given case, we may, on the one hand be unable to impress the circulation at all, and again we may return to find an alarming degree of depression.

In the following reports in which aconite was used, the course of treatment was

in the main as follows: As soon as seen, a mixture containing one minim (not one drop) of tincture of aconite, with from eight to ten grains of salicylic acid and an equal amount of bicarbonate of potash, in a vehicle of solution of ammonia acetate, was given hourly with plenty of water.

In each instance particular care was taken to obtain a standard percolated tincture.

When the influence of the drug became well marked, this mixture was replaced by one of benzoate of soda and spirit of nitrous ether, in a solution of citrate of potash, the remaining aconite mixture being reserved for the reaction.

On the evening of the second day, calomel, in divided doses, followed by a saline. Quinine, in two or three grain doses every three hours, was occasionally used with the idea of stimulating phagocytosis.

The temperature in some cases would reach 98.9° or 99.5°. After the withdrawal of the drug it would rise to 100° or 101.5° and persist four or five days, to then fall by lysis.

In four cases the sputum examined was found to contain mucus, blood, pus, swollen epithelium and numerous capsulated diplococci, and in two instances, streptococci.

It should be stated that the author's experience with veratrum has been very limited, and he therefore desires to acknowledge his indebtedness to Dr. W. W. Grant for his assistance and reports in this study.

Case I. Mr. H. O., aged 27. Second attack. First seen December 15, 1901, 7 p. m. Chill the same afternoon. Pulse lard, incompressible and 130 to the minute. Temperature 103.4°. Expectoration blood streaked; not examined. Complaining of severe pleuritic pain with each inspiration. Presents all the physical signs of a right apical pneumonia. A

marked mitral systolic murmur is heard at the apex, and is transmitted downward and to the left. The above mentioned mixture, containing one minim of tincture of aconite, etc., with one-eighth grain of spartein added to the hourly dose, was given. This was alternated with hourly doses of 1/10 grain calomel, followed by a saline.

Morning temperature, 99.5°; pulse, 100. On physical examination there were found conclusive evidences of fluid rising to about the level of the seventh rib. This, however, rapidly disappeared after several bowel movements resulting from the saline.

Upon examination of the urine, which was not collected until the second day, it was found to contain large amounts of albumen and casts.

The temperature reached normal about the sixth day. From this time convalescence was uneventful, and the urine cleared to a great extent as a result of the Bashan's mixture ordered.

Case II. S. H. D., aged 34. First seen with Dr. Hall, October 23. Had a severe chill about 6:30 p. m., the temperature rising to 104° by 9 p. m. Pulse bounding and from 120 to 130 in rate. Pleural pain very severe. Expectoration contained considerable blood, and being examined by Dr. McGraw was found to contain pneumococci. Left lower lobe presented the physical signs of beginning engorgement.

Tincture aconite, one minim, without the salicylic acid, was given in solution of potassium citrate. Morning temperature at 8 a. m., 101°; pulse, 108; soft and compressible. The same treatment was kept up every three hours for about twenty-four hours, and on the evening of the third day temperature became 99.4°, pulse 84, respiration 24. Stimulation in the form of strychnia and champagne. Convalescence well established in seven days.

Case III. Mr. J. M., aged 33. Second

attack within a year. Alcoholic to excess. First seen January 8, 1904, 9 a. m. Had a chill some time during the night. Physical examination revealed an engorgement of the lower left lobe. Face flushed; pulse tense, wiry and bounding, at the rate of 128 per minute. Temperature, 103.4°. Sputum almost clear blood. The microscope discloses numerous intracellular diplococci, few streptococci, swollen epithelium, mucus, blood and pus corpuscles.

Placed upon the usual mixture, containing one minim, and removed to the hospital. Temperature fell in seven hours to 101°, and the pulse to 118, and notably more compressible. The pleural pain became so severe on the fourth day that one-eighth grain morphine was deemed advisable, to which he exhibited a peculiar idiosyncrasy, in that he became cyanotic, and on the fifth day, at the suggestion of a consultant he was given one-fourth grain with atropine with the view that the cyanosis was probably due to suppressed breathing on account of the pain. This was followed by a most profound collapse, which is indicated on the chart at the point where the temperature is indicated as subnormal. The body became cold and clammy above the knees and from the shoulder down in the upper extremities. Pulse almost imperceptible. Unconsciousness and extreme cyanosis. Oxygen at frequent intervals was given for five or six hours with happy relief of this most trying situation. This was the only unconscious interval during the attack. Convalescence from this time was uneventful.

Case IV. Mr. W. C., aged 21. First seen January 28. Does not recall a chill. At 7:30 p. m., temperature registered 103°; pulse 132, with the usual tension. Pleuritic pain severe, and the expectoration largely blood, also containing the diplococci, pus, blood, etc. The right lower lobe presented the signs of involvement.

As a result of the aconite the morning

temperature registered 101° , pulse 100; extremely soft and compressible. Complaints of numbness of the hands and feet, and to some extent of the entire body. By noon the temperature had reached 99.8° , and the pulse 100. Temperature gradually rose to 101° by the third day, and ranged from 99° to 101° until the seventh day, when it became normal, and when he, contrary to orders, was found sitting up and dressed, though this seemingly did not interfere with his rapid and uninterrupted recovery.

Case V. For the privilege of reporting the following case I am indebted to Dr. Silverstein, and may add that the tincture used in this case was made from the fluid extract, as was afterward learned.

Mr. V. V. P., aged 36, weight 190. Periodic heavy drinker. First seen March 12, about noon, or some twelve hours after the initial chill. Temperature at 2:30, 101° ; pulse, 130; respiration, 28. Right upper and middle lobes involved. Characteristic sputum. Pleural pain most severe over the right middle lobe, anteriorly and in the axillary line. The pulse is stated to have become somewhat softer under the aconite, but the rate was not influenced till after twenty-four hours, and then not greatly. At 10 a. m., the third day extension had occurred to the left lower lobe. Death March 16, at 7 a. m.

VERATRUM.

Case I. Mrs. L., aged 55. History includes exposure twenty-four hours before, followed by a chill. First seen with Dr. Grant December 16, and afterward placed in my care. When first seen temperature was 103.5° , pulse full and bounding at 134, and respirations 30, and suffering acute pain over the lower left lung. Tincture of veratrum (Norwood's) was given in two drop doses with sodium benzoate, and codein for the pain.

The sputum contained, with the usual contents, the diplococcus and blood. No

consolidation occurred and the sputum cleared in three days, was discharged on the sixth day and was up on the tenth. There was not the secondary rise in the temperature which was noted in aconite.

Case II. Mrs. T., aged 20. July 7, 1902. Relapsed with the usual clinical phenomena, and the temperature 102° . One dose of fifteen drops was given at 5 a. m., and repeated at 8 a. m. Temperature and pain disappeared the following morning and did not recur.

Case III. Mr. C., aged 40. January 6, 1904. Usual phenomena; temperature, 102.5° ; bloody sputum, pleuritic pain, bounding pulse, with the physical signs. Was given Norwood's tincture, ten drops at 5 p. m., ten at 6, fifteen at 8 and ten at 11 p. m. The temperature became normal on the morning of the second day and remained so thereafter.

Case IV. H. T., aged 44. March 25 had a chill at night, followed by a temperature of 103.5° ; severe pleural pain, bloody sputum and crepitant rales were among the chief clinical symptoms. Pulse 110 and very tense and incompressible. Beginning at 10 a. m. he was given hourly doses of ten drops of Norwood's tincture for three or four hours, then five drops every other hour for the remainder of the afternoon. When seen at 8 p. m. he was perspiring freely, pulse tension was greatly reduced, and the pain markedly lessened. He received ten drops at 8 p. m., and no more. The physician in attendance—as this case was out of town—reports a normal temperature and pulse and rapid improvement on the morning of the next day.

It must be said that the results obtained by Dr. Grant are little short of the marvelous, as they certainly were in the first case noted under veratrum, which I had the pleasure of attending with him; for a pleasure it distinctly is to treat so serious a disease with the prompt and happy result above stated.

In conclusion it may be said that given standard preparations of these drugs, they are worthy of our reliance,—but only then.

That there seems to be no good reason for the belief that they interfere, by an ultimate effect, with convalescence, for as so well stated by Bishop¹²: "Interesting as they are important, the consideration of the mechanics of the circulation must give way to the consideration of the patient himself as an individual"; and while there may be individual cases of a susceptibility or an idiosyncrasy this is not the rule.

Finally, that if used early they undoubtedly do good, in that, if they do not prevent consolidation, they at least limit or prevent its extension.

For discussion, see p. 297.

REFERENCES.

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- ³Rusby, *Ref. Hand-book of the Med. Sciences*, Vol. I, pp. 83-85.
- ⁴Wood, *Therapeutics, Prins. and Prac.*, 10th Ed., p. 451.
- ⁵Reichert, *Phila. Med. Times*, Nov., '81 (quoted by Wood).
- ⁶Edson, *N. Y. Med. Record*, Vol. XXXVIII, 1890, p. 365.
- ⁷Whannel, *Brit. Med. Journ.*, Vol. II, 1890, p. 79.
- ⁸Tuttle, *Bost. Med. and Surg. Journ.*, Vol. XXV.
- ⁹Riggs, *Ref. Hand-book Med. Sciences*, Vol. I, p. 84.
- ¹⁰Wood, *Therap. Etc.*, p. 440.
- ¹¹Reynolds, *Jour. Am. Med. Assn.*, Feb. 28, 1903.
- ¹²Bishop, "Nature's Provision for Heart Stimulation," *Etc.*, *Jour. Am. Med. Assn.*, Vol. XLII, 1904, p. 820.

ABSTRACT.

VOLVULUS OF THE STOMACH.—C. D. Spivak, Denver, has collected the reported cases, eight in number, of this condition. He thinks that volvulus of the stomach is never produced spontaneously; that

the condition that favors such an upheaval works slowly and silently for many days and weeks, perhaps months and years. The last attack is simply the last straw that broke the camel's back. The narrowing of the lumen of the pyloric or cardiac end of the stomach, if not due to a foreign body, will serve as an analogy. The patient may feel its effects come on suddenly, but we all know the conditions were being slowly evolved. A careful study of the cases thus far reported brings out the fact that all the patients have suffered more or less from some gastric disturbance, from simple heaviness and obscure sensations to attacks of severe pain and vomiting. In volvulus of the intestine we invariably find a history of constipation of long standing, and we are therefore justified in assigning to it an etiologic importance.

He concludes: 1. The occurrence of volvulus of the stomach is a possibility beyond a shadow of a doubt; it remains, therefore, for physicians to bear this condition in mind when making a differential diagnosis between pyloric obstruction, occlusion of the bowels, poisoning, cyclic vomiting, cholelithiasis, peritonitis, etc.; for surgeons to be ready to operate when necessary and not to forget to empty the stomach of its contents, and for authors to devote some space to this condition in their text-books on diagnosis and surgery.

2. Volvulus of the stomach occurs at all ages and in both sexes.

3. Digestive disorders may be considered as etiologic factors.

4. From a pathologic standpoint volvulus of the stomach may be divided into (a) that due to organic changes produced by adhesions, ulcerations, tumors and contractions, and (b) that in which no visible organic changes have taken place.

5. The characteristic symptoms of volvulus are: Sudden onset; distension, which commences in the left hypochon-

driac region, and which gradually increases in size; a tumor which gives on percussion a tympanitic sound; vomiting or regurgitation immediately following ingestion of food or drink; no belching, no escape of flatus; inability to pass sound to the stomach.

6. When the condition is recognized, early operation interference is indicated, and recovery is almost certain.—*American Medicine*, October 31, 1903.

THIRTY-FOURTH ANNUAL CONVENTION

of the

Colorado State Medical Society

October 4, 5, 6, 1904

DENVER

The Sessions will be held in the Brown
Palace Hotel

PROGRAM

Tuesday, October 4th

8 a. m.

CLINIC AT THE COUNTY HOSPITAL.

9 a. m.

MEETING OF THE HOUSE OF DELEGATES.

10 a. m.

SCIENTIFIC SESSION.

Papers

1. "The Laboratory Diagnosis of Gastric Diseases." E. C. HILL, *Denver*.
2. "Typhoid Fever and Its Treatment." B. F. WOODING, *Denver*.

3. "Bone Necrosis Following Typhoid Fever." FRANK FINNEY, *La Junta*.
4. "A Review of the Literature of Diabetes Mellitus in Children, with report of a Case." F. E. WAXHAM, *Denver*.
5. "Eczema, Its Etiology and Treatment." W. E. WILSON, *Denver*.
6. Duodenal Ulcer Caused by Pressure from Gall Stones in Gall Bladder." G. H. CATTERMOLLE, *Boulder*.
7. "Tympanites, Merycism and Aerophagia." C. D. SPIVAK, *Denver*.

2 p. m.

1. "Report of Cases of Morphinomania." J. E. COURTNEY, *Denver*.
2. "The Narcotic Drug Addictions." GEORGE E. PETTY, *Memphis, Tenn*.
3. Pleurisy with Effusion and Empyema from the Standpoint of the Internist." JAMES R. ARNEILL, *Denver*.
4. "Sub-Normal Temperature in Tuberculosis." M. COLLINS, *Denver*.
5. "The Employment of the X-Ray in the Diagnosis of Bone and Joint Injuries." S. B. CHILDS, *Denver*.
6. "An Improved X-Ray Method for the Study of Bone Injuries." G. H. STOVER, *Denver*.
7. "Electro-therapeutics and X-Ray. To What Extent Practicable to the General Practitioner." E. GARD EDWARDS, *La Junta*.
8. "Bone Formation—Extensive—In an Unpromising Case of Gun-Shot Injury Involving the Leg." G. W. MIEL, *Denver*.
9. "Functional Nervous Diseases." ROBERT M. POLLOCK, *Rocky Ford*.

8 p. m., Banquet

Wednesday, October 5th

8 a. m.

CLINIC AT THE COUNTY HOSPITAL.

10 a. m.

1. "The Operative Treatment of So-Called Medical Diseases." J. G. SHELDON, *Telluride*.

Thursday, October 6th

8 a. m.

CLINIC AT COUNTY HOSPITAL.

10 a. m.

1. "School Sanitation."
F. G. BYLES, *Denver*.
2. "Treatment of Some of the Pleuritic Complications of Pulmonary Tuberculosis."
S. G. BONNEY, *Denver*.
3. "Colopexy of Sigmoid Flexure for Prolapse of the Rectum."
A. L. BENNETT, *Denver*.
4. "Final Report of Cures of Congenital Dislocation of the Hip, with Exhibition of Cases."
G. B. PACKARD, *Denver*.
5. "Sarcoma of the Back."
CHAS. A. POWERS, *Denver*.
6. "Report of Matters of Interest from Last Meeting of A. M. A."
W. A. JAYNE, *Delegate, Denver*.

2 p. m.

1. "The Early Diagnosis and Treatment of Appendicitis with Personal Report from One Hundred Physicians who Have Suffered from the Disease."
I. B. PERKINS, *Denver*.
2. "Surgery of the Abdominal Cavity,"
W. W. GRANT, *Denver*.
3. "Report of the House of Delegates."
J. M. BLAINE, *Denver*.
4. "President's Address."
THOS. H. HAWKINS, *Denver*.

All papers limited to 15 minutes. Discussions limited to 5 minutes.

NOTE.—Physicians from outside of Denver who expect to attend the banquet on Tuesday evening, will please notify Dr. Melville Black, Majestic Building, Denver, by letter so that reservations can be made. Tickets must be secured before the close of the afternoon session. Price \$2.00.

On Wednesday evening President Hawkins will give a theater party to all members and their wives.

2. "Is the Transplantation of the Spermatic Cord Necessary for the Radical Cure of Inguinal Hernia?"

F. GREGORY CONNELL, *Salida*.

3. "Treatment of the Urethral Stricture by Electrolysis."

W. W. McEWEN, *Durango*.

4. "Clinical Experience with Prof. Dunbar's Pollatin in the Treatment of Hay Fever."

W. W. BULETTE, *Pueblo*.

5. "The Mastoid Operation, Report of Cases."

R. G. DAVENPORT, *Trinidad*.

6. "Operated Cases of Converging Strabismus. Photographic Illustrations."

W. C. BANE, *Denver*.

7. "The Management of Cataract."

MELVILLE BLACK, *Denver*.

8. "Report of a Case of Pernicious Anemia."

O. M. GILBERT, *Boulder*.

2 p. m.

1. "State School for Deaf and Blind."

ELEANOR LAWNEY, *Denver*.

2. "Illustrations of Methods."

W. N. ARGO, *Colorado Springs*.

3. "Education vs. Legislation."

R. W. CORWIN, *Pueblo*.

4. Report of Cases, viz.: "Treatment of Stump in Appendicitis."

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H. G. WETHERILL, *Denver*.

11. "Diagnosis and Treatment of Migraine"

H. T. PERSHING, *Denver*.

8 p. m., Theatre Party

COUNTY MEDICAL SOCIETIES.

The Otero County Medical Society met at La Junta September 7. Dr. Finney read a paper on **Fractures of the Radius**. E. Gard Edwards was elected delegate to the State Society, and R. F. Sigman, alternate, vice F. Finney, resigned. The Secretary was instructed to proceed with the prosecution of all persons in Otero county who were practicing medicine without a license. Applications for membership were received from J. Ed Ray, Sugar City, and Fisher Smith, Rocky Ford. An informal discussion as to the advisability of the physicians of La Junta dispensing medicine brought out the fact that, with one exception, all the members were opposed to the practice.

E. GARD EDWARDS, Sec.

BOOKS.

Radiotherapy, Phototherapy, Radium and High-Frequency Currents.—By Charles Warren Allen, M. D., Professor of Dermatology in the New York Post-Graduate School. Octavo, 618 pages, 131 engravings and 27 plates. Lea Brothers & Co., Philadelphia and New York. 1904.

The medical and surgical applications of radiology in diagnosis and treatment have already assumed great importance in every-day practice; and because of the newness of the subject they can properly be expected to occupy a proportionately larger place in medical literature. A text-book upon the subject must still, as does this one, deal largely with debatable questions, supporting its author's position with extended argument and cases cited.

This work devotes less space than others have done to the physical and technical sides of the subject, although these are fairly presented. It gives more space to the clinical aspects of radiology. It is divided into seven parts. The first, comprising something over 100 pages, deals with general considerations, the history and character of the X-ray, apparatus and methods of administration. Part II, about 20 pages, is devoted to Diagnosis. Part III, 227 pages, upon Radio-Therapy, devotes chapters to special diseases, as Epithelioma, Sarcoma, Skin Diseases, Ophthalmic and Aural Diseases, and to Deleterious Effects of the X-Ray, its Action, Dosage and Medico-Legal Aspects and Miscellaneous Uses. Part IV, 33 pages, headed Light, takes up the therapeutic indications for its employment, physical properties of light, as its action on bacteria, its effects in producing disease, and photo-the-

rapeutics. Part V, 77 pages, upon Actino-Therapy, continues the discussion of those rays and their application, to which attention was first effectively directed by Finsen. Part VI, upon Radio-Activity, deals with the use and effects of radium and allied substances. Part VII, 50 pages, takes up the history, production, properties, effects and therapeutic applications of high-frequency currents.

It is perhaps too soon to pass upon the soundness of any teaching regarding the clinical application of these new agents. But the statements in this book are generally moderate, and well-supported by cases presented by successive photographs. The value of the book is greatly increased for the inexperienced practitioner disposed to undertake radiotherapy or phototherapy by the emphasis laid upon dangers and possible mistakes. The paragraphs headed "Caution," which call attention to the things which should not be done, are apparently as numerous and important as those headed "Technique." The new therapeutic resources with which this book is concerned are of interest to every practicing physician. Even though he may not undertake their application, he must, to keep abreast of the times, have an intelligent comprehension of their general character, and what may or may not be expected of them.

A Treatise on the Principles and Practice of Gynecology.—By E. C. Dudley, A. M., M. D., Professor of Gynecology in the Northwestern University Medical School, Chicago. Fourth edition, revised and enlarged. Octavo, 771 pages, with 401 illustrations, of which 50 are in colors, and 18 full page colored plates. Lea Brothers & Company, Philadelphia and New York. 1904.

Gynecology as a specialty may be on the decline. But this means only a wider and more minute interest in it on the part of the general surgeon and the family physician. Dudley's treatise, which has taken its place among the standard works on the subject, will lose none of its popularity by this new edition. The text has been very generally revised, bringing the teaching up to date, and the introduction of 300 new illustrations from drawings specially made for the work, will certainly add to its popularity. Illustrations from the surgical instrument workers' catalogues have been excluded; and, with few exceptions, instruments are shown as they would appear when in use.

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